

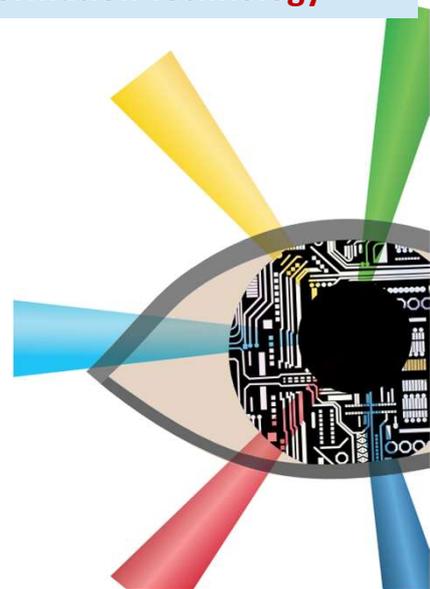
Welcome to

BTEC Level 3 National Extended Certificate
in Information Technology

Induction Day

BTEC Level 3 National Extended Certificate in Information Technology

- 360 Guided Learning Hours
- (Basically - one A Level)
- 4 units
- 3 are mandatory
- That means we can chose..... ONE!! What excitement!!



Key

Unit assessed externally
 M Mandatory units
 O Optional units

Unit (number and title)	Unit size (GLH)	Certificate (180 GLH)	Extended Certificate (360 GLH)	Foundation Diploma (510 GLH)
1 Information Technology Systems	120		M	M
2 Creating Systems to Manage Information	90	M	M	M
3 Using Social Media in Business	90	M	M	M
4 Programming	90			M
5 Data Modelling	60		O	O
6 Website Development	60		O	O
7 Mobile Apps Development	60			O
8 Computer Games Development	60			O

Unit 1 (exam) Unit 2 (set assignment - database) Unit 3 (portfolio) – 300 GLH
 Unit 5 (modelling) OR Unit 6(Website development) – 60 GLH

Unit 1: Information Technology systems

Two hour exam, which is worth 90 marks.

The exam will assess your understanding of computer systems and the implications of their use in personal and professional situations.

Unit 2: Creating Systems to Manage Information

A task set and marked by Pearson and completed under supervised conditions.

- **In part A**, learners will be provided with a brief to complete five activities in the set task in three hours on the afternoon of the first day.
- **In part B**, learners will be provided with a brief to complete three activities in the set task in two hours on the morning of the second day.
- Completed using a computer and submitted electronically.
- 66 marks.

Includes thing like....

Knowledge of database development terminology, standards, concepts and processes

Create a software product to meet a client brief

Optimise the performance of a database solution

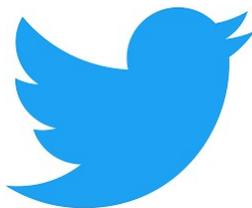
Evaluate the success of a database's design and performance



Unit 3: Using Social Media in Business

Learning aims

- A Explore the impact of social media on the ways in which businesses promote their products and services
- B Develop a plan to use social media in a business to meet requirements
- C Implement the use of social media in a business.



Unit 6: Website Development

- Internally assessed by assignment.
- Understand the principles of website development
- Design a website to meet client requirements (Design Tools, SEO, Testing)
- Develop a website to meet client requirements (HTML, CSS, JavaScript)



Summer Course Preparation Project – Task 1

Produce a Google Docs presentation which is designed to teach other students about the features and uses of each of the following digital devices, using the Internet to do your research:

- | | |
|---------------------------|---------------------------------------|
| • Multifunctional devices | • Digital cameras – still, video |
| • Personal computers | • Navigation systems |
| • Mobile devices | • Data capture and collection systems |
| • Servers | • Communication devices and systems. |
| • Entertainment systems | |

Your presentation should:

- Include a slide about each device.
- Describe what the device is used for and how it helps us as individuals and organisations.
- Talk about the different features/specification of the devices and compare some, as part of this you should compare Laptops, Personal Computers and Tablets in terms of their:
 - Performance
 - Repair and Upgrade Ability
 - Average Cost
 - Portability
 - Health & Safety Considerations when using this Display Screen Equipment (DSE)
 - Compare their range of Uses for Individuals and Organisation

Summer Course Preparation Project – Task 2

Answer the following Questions?

Q1)

Describe some of the hardware and software making up the IT system at our school. List the different categories of users; for example, teaching staff and students. Do some departments have specialised IT equipment and software?

Q2)

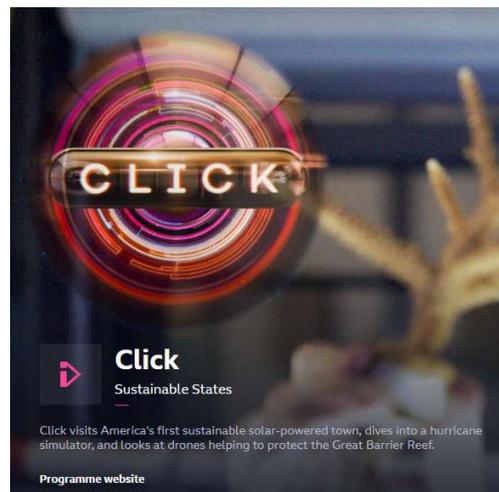
What features would you look for in a PC that was going to be used for playing games software?

Q3)

Why have sales of digital cameras fallen since 2010?

Q4)

Research the follow Data capture devices are used for and suggest applications for there use: magnetic card readers, RFID readers, biometric devices and sensors.

Summer Course Preparation Project – Task 3

Expectations

- Coursework Deadlines – Time keeping
- A4 Folder and Lined Paper – Note taking, Organisation



What are HTML and CSS?

All websites use HTML and CSS. After learning both of these languages, you will be ready to build your own website!

- *HTML* stands for Hyper Text Markup Language. It is the language or script that webpages are written in.
- It is used to give websites structure with text paragraphs, links, images, and other fundamental elements.
- *CSS* stands for Cascading Style Sheets. It is used to change the appearance of HTML elements.



- Uses Tags to “Mark-up” content.
- Most Tags are in opening and closing pairs, and are nested.
- All HTML documents must start with a document type declaration: `<!DOCTYPE html>`.
- The HTML document itself begins with `<html>` and ends with `</html>`.
- The visible part of the HTML document is between `<body>` and `</body>`.

```

0      10      20
<!DOCTYPE html>
<html>
<body>
<h1>My First Heading</h1>
<p>My first paragraph.</p>
</body>
</html>

```

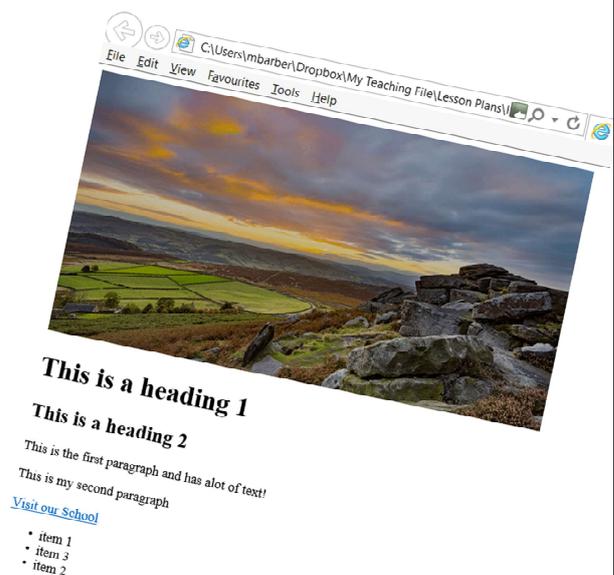


HTML & CSS | HyperText Markup Language (HTML)

HTML Tag	Definition
<html>	All code enclosed within these tags is interpreted as HTML
<body>	Defines the content in the main browser content area
<head>	Defines the Browser tab or window heading area
<title>	Defines the text that appears with the tab or window heading area
<h1>, <h2>, <h3>	Heading styles in decreasing sizes
<p>	A paragraph separated with a line space above and below
	Self closing image tag with parameters:
<a>	Anchor tag defining a hyperlink with location parameter: Link text
, 	Defines an ordered (numbered) or unordered (bulleted) list
	Defines an individual list within either a numbered or bulleted list

HTML & CSS | HyperText Markup Language (HTML)

Demo Using Notepad



Anchor Tag <a>

The <a> tag defines a hyperlink, which is used to link from one page to another.

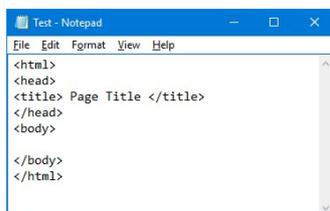
Example:

Specifies the URL of the page the link goes to Windows or Frame linked page opens in

```
<a href="https://www.samuelwhitbread.org.uk" target="_blank">Visit W3Schools.com!</a>
```

Activity 1

Create the simple HTML file below in Notepad. Change the title and add text to the body.



```
Test - Notepad
File Edit Format View Help
<html>
<head>
<title> Page Title </title>
</head>
<body>
</body>
</html>
```

Google Drive
1.3.4 Web Technologies
Website Design Activity 1 & 2

HTML tag	Definition
<html>	All code enclosed within these tags is interpreted as HTML
<body>	Defines the content in the main browser content area
<head>	Defines the browser tab or window heading area
<title>	Defines the text that appears with the tab or window heading area
<h1>, <h2>, <h3>	Heading styles in decreasing sizes
<p>	A paragraph separated with a line space above and below
	Self closing image tag with parameters:
<a>	Anchor tag defining a hyperlink with location parameter: Link text
, 	Defines an ordered (numbered) or unordered (bulleted) list
	Defines an individual list item within either a numbered or bulleted list
<div>	Facilitates the division of a page into separate areas, each of which may be referred to uniquely by name, and styled differently using CSS

CSS What is it?

CSS = Cascading Style Sheets

CSS is a "style sheet language" that lets you style the elements on your page.

CSS is embedded inside HTML, but it is not HTML itself.



CSS in HTML

CSS can be embedded in HTML in several ways.

One way is to include all CSS in a style tag, usually inside the head tag:

```
<head>
<style>
body { color: yellow; background-color: black; }
</style>
</head>
```

Another way is to include a link to a separate CSS sheet:

```
<head>
<link href="../css/styleSheet.css" rel="stylesheet" type="text/css">
</head>
```

Anatomy of CSS

CSS consists of "style rules". Each style rule consists of a "selector" and "declarations" of property-value pairs:

```
selector {  
  property: value;  
  property: value;  
}  
  
body {  
  color: yellow;  
  background-color: black;  
}
```

```
<head>  
<meta charset="utf-8">  
<title>Untitled Document</title>  
  
<style type="text/css">  
  
body {  
  color: yellow;  
  background-color: black;  
}  
  
table {  
  background-color: #CF383B;  
}  
</style>  
</head>
```

CSS in HTML

Another way is to embed the style in the element tag.

```
<p style="color:green; text-align:center;" > This is some text </p>
```

CSS Selectors

selector { property: values; }

The selector is used to select which elements in the HTML page will be given the styles inside the curly braces.

Types of Selectors

- element
- id
- class
- position in document



Element Selector

p { }

Selects all **p** elements in the entire document.

i.e. All Paragraphs.

```

7 <style type="text/css">
8 p {
9     color:red;
10 }
11 </style>
12 </head>
13
14 <body>
15 <h1> Robots could take 4m UK private sec
16 <p class="warning"> Four million jobs in
17 to business leaders asked about the fut
18 <p class = "warning">
19 The potential impact amounts to 15% of t
20 Royal Society of Arts, whose chief execu
21 </p>
22 <p id="jobs">Jobs in finance and account
23 likely to be automated in the next decad
24 </p>

```

id Selector

#jobs { }

Selects any element with the id "jobs", e.g.
 Element ids are unique, so there should only be one element.

The "#" is how you tell CSS "this is an id."

```

7 <style type="text/css">
8 #jobs {
9     color:red;
10 }
11 </style>
12 </head>
13
14 <body>
15 <h1> Robots could take 4m UK private se
16 <p class="warning"> Four million jobs i
   to business leaders asked about the fu
17 <p class = "warning">
18 The potential impact amounts to 15% of
   Royal Society of Arts, whose chief execu
   </p>
19
20 <p id="jobs">Jobs in finance and account
   likely to be automated in the next deca
21
22 </p>
  
```

class Selector

.warning { }

Selects any element with the class name
 "warning", e.g.

<p class="warning"></p>

Multiple elements can have the same class
 name.

The "." is how you tell CSS "this is a class
 name."

```

7 <style type="text/css">
8 .warning {
9     color:red;
10 }
11 </style>
12 </head>
13
14 <body>
15 <h1> Robots could take 4m UK private se
16 <p class="warning"> Four million jobs i
   to business leaders asked about the fu
17 <p class = "warning">
18 The potential impact amounts to 15% of
   Royal Society of Arts, whose chief execu
   </p>
19
20 <p id="jobs">Jobs in finance and account
   likely to be automated in the next deca
  
```

Order of style application

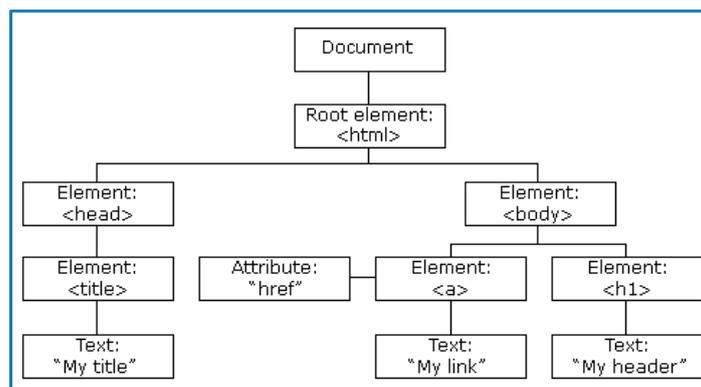
Linked CSS, then Local CSS (within <head>), then Inline styles within the HTML tags.

Inline styles will have precedence over all other styles. Inline CSS should be avoided as it increases maintenance cost and blurs line between presentation and content.

CSS follows the DOM (Document Object Model)

id takes precedence over **class**

class take precedence over **element**.



Identifiers and classes

identifier and class selectors are named ‘hooks’ onto which you can hang styles. You can then apply these grouped styles to an HTML element such as a <div> element by adding the class or id name as a parameter, e.g. <div id="page">.

The styles for the id selector called page are listed within curly brackets within the CSS document: #page {max-width:800px; margin: 20px auto; padding: 30px; background-color: #cc6633;}. Any HTML content within the page divider will be styled accordingly.

Identifiers are defined with a hash tag (#) preceding the id name, e.g. #header. They must be unique to every webpage. in the example, #header is a good example of a unique element since a webpage is likely only to contain one header.

Classes work in a similar way to an identifier but use a full stop as a prefix to the class name e.g. .list. Classes can be used multiple times on a webpage. in the example there are two lists which share common formatting unique to the list element such as the font colour. This can be defined in the CSS and applied to all list <div> regions on the page.

TASK: Create the webpage using the HTML script and the CSS script provided.

Activity 2 - AFL

What will be the colour of the text starting "Jobs in finance....."?

```
<head>
<style type="text/css">
p { color:blueviolet; }

.warning {
  color:darkgreen;
  font-family: Arial;
}

#jobs {
  color:red;
}
</style>
</head>

<body>
<p class="warning" id="jobs">Jobs in finance an
advertising are most likely to be automated in

</p>
<table align="center" width="700">
```

DIV Tag <DIV>

The <div> tag defines a division or a section in an HTML document. The <div> tag is used to group block-elements to format them with CSS.

```
<div style="color:red; float:left; width:200px; text-align:left;">
  <h3>This is a heading</h3>
  <p>This is a paragraph.</p>
</div>

<div style="color:blue; float:left; width:200px; text-align:right;">
  <h3>This is a heading</h3>
  <p>This is a paragraph.</p>
</div>
```

This is a heading

This is a paragraph.

This is a heading

This is a paragraph.

HTML & CSS

Activity 3

Google Drive

1.3.4 Web Technologies

Website Design Activity 1 & 2



HTML & CSS

Activity 4

We have just looked at Selectors.

Now it's your turn!

Research online to see the different text properties (other than color) you can change.

https://www.w3schools.com/css/css_text.asp

Ensure you are familiar with:

background-color

border-color

border-style

border-width

color with named and hex colours font-family

font-size height width